Phosphorus, Sulfur and Silicon and the Related Elements 2016 vol.191 N11-12, pages 1679-1681

Synthesis and structure of novel phosphorylated azomethines

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Abstract

© 2016 Taylor & Francis Group, LLC.The condensation of do-, hexa-, octadecan-1-amines with bromo- and nitrobenzaldehydes yielded a series of Schiff bases in good yields. Subsequent reaction of these compounds with dioctylphosphine oxide yielded phosphorylated azomethines and some were characterized using X-ray crystallography. The structure of the isolated compounds was determined by IR and NMR spectroscopy, elemental analysis, and their thermal stability was studied by simultaneous thermogravimetry and differential scanning calorimetry. All of the synthesized compounds were tested for their antibacterial and anti-Candida activity. A number of the compounds exhibited antimicrobial activity comparable to that of the commercially available drugs, ciprofloxacin and clotrimazole.

http://dx.doi.org/10.1080/10426507.2016.1227822

Keywords

Antimicrobial activity, organophosphorus compounds, phosphorylated Schiff bases